

A REVIEW OF THE STATUS OF *DREPANEPTERYX PHALAEANOIDES* (LINN.) IN SCOTLAND (NEUROPTERA; HEMEROIIDAE).

E.G. HANCOCK¹ and A.E. WHITTINGTON²

¹Art Gallery & Museum, Kelvingrove, Glasgow, G3 8AG

²National Museums of Scotland, Chambers St, Edinburgh, EH1 1JF

INTRODUCTION

Drepanepteryx phalaenoides (Linn.) is an attractive lacewing which has a long history in Scotland. Its resemblance when at rest to a dead leaf is one of the best examples of camouflage exhibited by a British insect (see Plate 2). This, and its elusive behaviour, have ensured that it has been regarded as an insect of some note. The records show that it has been collected continuously at a number of Scottish localities for over 175 years.

HISTORICAL BACKGROUND

The appearance and apparent rarity of *D. phalaenoides* have meant that whenever it has been seen by naturalists the details have generally appeared in print. The earliest notice of its occurrence in the British Isles appears to be that of Curtis (1828) which mentions a specimen found near Lanark in June 1827 by a Mr H. Walker, thus giving the species native British status. This record has been quoted on a number of occasions (eg., King, 1901 & 1909; Morton, 1885 & 1910). Stephens (1829) included it in his list of British insects based on the cabinet of 'D. Walker', probably a mistranscription of 'H. Walker' and derived from Curtis. Stephens (1836) illustrates the species using a specimen from Raehills, Dumfriesshire which had been obtained from a Mr Little. It is most likely that this is the 'Rev. Mr William Little of Kirkpatrick-Juxta, Dumfriesshire' as acknowledged by the coleopterist Andrew Murray. Little had an extensive cabinet which had been seen and named by James Francis Stephens (1792-1852), thus giving an authority to the names so bestowed by such an expert, and providing an invaluable reference for entomologists remote from London (Murray, 1853).

The valley of the River Clyde near Lanark, embracing tributaries such as the Mouse Water and the Avon and Nethan gorges, was, and still is, popular with both sightseers and naturalists. *D. phalaenoides* was remarked upon following visits to both Cleghorn and Carluke by J.J.F.X. King, K.J. Morton and R. McLachlan during the year 1885 (Anon., 1887; Morton, 1885). Subsequently, Morton was to recall that he returned and found more up to the year 1893 (there is a specimen of his in the National Museums of Scotland from Cleghorn dated 5th October, 1891) when he added a new Scottish locality, Roslin, Midlothian, for the species (Morton, 1933).

The discovery of *D. phalaenoides* in Roslin Glen led to Morton collecting it on at least 26 occasions between 1933 and 1939 which are represented by 37 specimens in the National Museums of Scotland. Visits by others have produced it at Roslin also, as summarised in Table 1. Other sites in Perthshire (Beaumont, 1893), Banff (Thorburn, 1845),

Dumfries (Stephens, 1836) and Roxburgh are included and also shown on the map (Fig.1).

Table 1. Scottish localities with summary of dates and numbers of specimens where known.

Locality	Date(s)	Nos.	Recorder	Source
Raehills, Dumfries.	18--?	1	Little	lit.
Cleghorn, Lanarkshire	1828	1	Walker	lit.
	1885-1893	5	King, Morton, <i>et al.</i>	lit.
Carluke, Lanarkshire	1885	[1]	King, <i>et al.</i>	lit.
	1892	1	Morton	lit.
	1996	1	Robertson	GM
Roslin, Midlothian	1933-1939	37	Morton	NMS
	1950	1	Fraser	lit.
	1985	1	Bland	NMS
	1995	1	Saville	NMS
Denholm, Roxburghshire	1972	1	Buckham	NMS
Pitlochry, Perthshire	1892	1	Beaumont	BOL
Forglen, Banffshire	<1845	[1]	Thorburn	lit.

BOL = Bolton Museum & Art Gallery; GM = Glasgow Museums; NMS = National Museums of Scotland; lit. = from published sources where specimens not known.

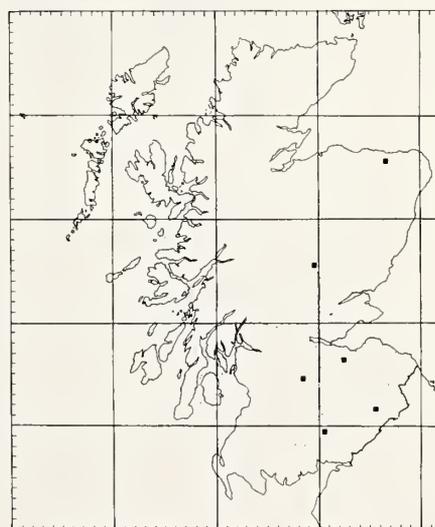


Figure 1. Distribution in Scotland based on specimens in museums and published records. Larger squares represent Ordnance Survey 100km grid system.

FINDING THE INSECT

Morton, as reported in Fraser (1951), lamented the difficulties in capturing this species, it having taken him on average up to four hours to find each individual, collected by beating beech, oak and hazel. This lacewing has also been beaten from sallows and alder (Morton, 1910).

One collecting method of particular value is light trapping (Plant, 1994) which can make the species appear common. Neville Birkett (*in litt.*, 14 September 1996) describes finding up to three specimens per night in a light trap in a wood in southern Cumbria. Otherwise hunting by net is difficult. It is possible that, like many of the snake flies (Rhaphidioptera), *D. phalaenoides* has a preference for tree tops, thus making it difficult or impossible to sweep or beat for them. Under certain circumstances steep sided wooded ravines bring the tops of trees more within reach. This might account for most of the Scottish records being from sites with this kind of topography.

According to available data (Fig. 2) the flight period in Scotland is from May to October with a peak in recorded activity in August. This would normally be regarded as typical of an univoltine insect (having one generation per year). It has been proposed that adults may overwinter from October onwards, only mating in the spring (Fraser, 1951). There is at present no evidence for this as adults have never been reported in hibernation. Standfuss (in Morton, 1910) believed that either eggs or larvae must be the overwintering stage. The matter remains unresolved with Aspüeck *et al.* (1980) giving it as 'Adult(?)' and even suggesting that there may be two generations (bivoltine). This issue requires further examination and the situation may differ over the geographical range of the species.

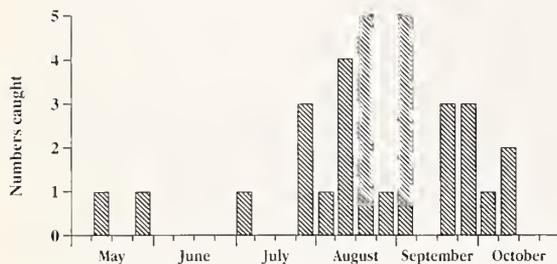


Figure 2. Dates of capture of Scottish records of *Drepanepteryx phalaenoides*.

IS IT MORE OR LESS COMMON?

Given the difficulty of finding this lacewing but in the knowledge that in certain places it can be found using appropriate searching techniques, we, like Morton (1933), are of the opinion that its former status as a rarity is only apparent. The current intensity of study of the Neuroptera in Britain, because of the well organised national recording scheme, is revealing *D. phalaenoides* as being local but widespread (Plant, 1994). Neuroptera were not dealt with in the insect Red Data Book (Shirt, 1987), but Kirby (1991) describes its status as 'local'.

At well known sites such as those in the Clyde Valley, Lanarkshire, and Roslin, Midlothian, this species has been

shown to have been continuously resident for many years. It seems likely that field work at other promising places in Scotland would reveal a much wider distribution.

ACKNOWLEDGEMENTS

Bob Saville and David Robertson generously made available their specimens and Val Muirhead her excellent photographs of live examples from Roslin Glen. Steve Garland kindly provided the data from the Beaumont specimen from Pitlochry in the Bolton Museum collection. Invaluable records were obtained from SIRI (the Scottish Insect Records Index) and BRC (the Biological Records Centre, Huntingdon). Rose Whittington provided useful assistance with drawing the map (Fig 1.)

REFERENCES

- Anon. (1887). *Proceedings and Transactions of the Natural History Society of Glasgow* 1, lxxviii.
- Aspüeck, H., Aspüeck, U. & Hülzel, H. (1980). *Die Neuropteren Europas*, VI. Goecke & Evers, Krefeld.
- Beaumont, A. (1893). *Drepanepteryx phalaenoides* at Pitlochry. *Entomologist's monthly Magazine* 29, 263.
- Curtis, J. (1828). *British Entomology, etc.*, Volume 5, folio 202. Lovell Reeve & Co., London.
- Fraser, F.C. (1951) *Drepanepteryx phalaenoides* (L.) in Midlothian (Neur., Hemerobiidae). *Entomologist's monthly Magazine* 87, 31.
- King, J.J.F.X. (1901). Insecta (Order Neuroptera - Plannipennia) in Elliott, G.F.S. et al., *Fauna, Flora and Geology of the Clyde Area*. British Association Handbook, Glasgow.
- King, J.J.F.X. (1909). Proceedings of meetings. *Glasgow Naturalist* 1, 55-56.
- Kirby, P. (1991). A review of the scarcer Neuroptera of Great Britain. *Research and Survey in Nature Conservation* 34, 1-30.
- Morton, K.J. (1885). *Drepanepteryx phalaenoides* L. in Scotland a rediscovery. *Entomologist's monthly Magazine* 22, 139-140.
- Morton, K.J. (1910). Life history of *Drepanepteryx phalaenoides*, Linn. *Entomologist's monthly Magazine* 46, 54-62.
- Morton, K.J. (1933). *Drepanepteryx phalaenoides* Linn. in Midlothian; a new county record. *Entomologist's monthly Magazine* 69, 246-247.
- Murray, A. (1853). *Catalogue of the Coleoptera of Scotland*. William Blackwood & Sons, Edinburgh.
- Plant, C.W. (1994). *Provisional atlas of the lacewings and allied insects (Neuroptera, Megaloptera, Raphidioptera and Mecoptera) of Britain and Ireland*. Biological Records Centre, Huntingdon.
- Shirt, D.B. (1987). *British Red Data Books*, 2. Insects. Nature Conservancy Council, Peterborough.
- Stephens, J.F. (1829). *A systematic catalogue of British insects, etc.*, Volume I. London (privately printed).
- Stephens, J.F. (1836). *Illustrations of British Entomology. Mandibulata* 6, 100 (Plate xxiii).
- Thorburn, J. (1845). Parish of Forglan. Presbytery of Turriff, Synod of Aberdeen. *New Statistical Account of Scotland* 13, 83.